IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	§	
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MICHAEL KAGAN ET AL.	§	
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Serial No.: 10/052,500	§	
	§	
Filed: January 23, 2002	§	Group Art Unit: 2157
	§	
For: DOORBELL HANDLING WITH PRIORITY PROCESSING FUNCTION	§	Attorney Docket: 3091/20
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	§	
Examiner: Sargon N. Nano	§	

Commissioner of Patents and Trademarks
Washington, DC 20231
Box AF

PRE-APPEAL BRIEF REQUEST FOR REVIEW

The Examiner has finally rejected claims 1-29 under § 102(e) as being anticipated by Gronke, US Patent No. 6,888,792 (henceforth, "Gronke '792")

The Examiner's rejection is improper for being based on factual errors.

In a high-speed, packetized, serial input/output network architecture such as InfiniBand™, a host is coupled to the network by a network adapter. The memory space of the adapter includes "doorbells" (typically one page each in size) that are used by applications running on the host to notify the adapter that data in host memory are to be sent to other entities on the network. When an application running on the host needs to send data from host memory to another entity on the network, the application writes a descriptor of the data to host memory and then "rings" a "doorbell" by writing an appropriate command to the doorbell to inform the adapter of the location of the descriptor in host memory.

This prior art method is used by both Gronke '792 and the present invention. The response filed December 14, 2005 presents citations from Gronke '792 on page 4 lines 9-20 that show this prior art method as being taught in Gronke '792. The present invention includes, in addition to the prior art method, an alternative method for an application running on the host to inform the adaptor of the existence and location of data in host memory that are to be sent to another entity on the network, a method that is not taught by Gronke '792. According to the present invention, the application has the option of ringing a doorbell by writing a descriptor to the doorbell instead of to host memory.

The response filed December 14, 2005 shows on page 4 how the prior art method is recited in independent claims 1, 10, 15, 24 and 25, and on page 5 how the alternative method is recited in independent claims 1, 10, 15, 24 and 25. There are two limitations recited in these claims that are not taught by Gronke '792.

The first limitation that is not taught in Gronke '792 is the limitation of writing a descriptor to a doorbell. In claim 1, this limitation is expressed as "writing a second descriptor to a second one of the doorbell addresses". In claim 10, this limitation is expressed as "writing a second descriptor to a second doorbell address of the DMA engine". In claim 15, this limitation is expressed as "a doorbell handler, which is coupled to the range of doorbell addresses...so as to receive the second descriptor written...to the second doorbell address". In claim 24, this limitation is expressed as "a doorbell handler, which is coupled to the range of doorbell addresses...so as to receive the second work request written by the host processor to the second doorbell address". In claim 25, this limitation is expressed as "a doorbell handler which is coupled to the range of doorbell addresses...so as to receive the second descriptor written by the host processor to the second doorbell address".

The second limitation that is not taught in Gronke '792 is the limitation of fetching data from host memory and sending the data to the network in response to the descriptor being written to the doorbell. In claim 1, this limitation is expressed as "responsive to the second descriptor having been written to the second one of the doorbell addresses, sending the second message from the network interface adapter over the network". In claim 10, this limitation is expressed as "responsive to the second descriptor having been written to the second doorbell address, executing the second descriptor using the DMA engine". In claim 15, this limitation is expressed as "the doorbell handler being further coupled...responsive to the second descriptor having been written to the second doorbell address, to pass the second descriptor to the execution circuitry and to instruct the execution circuitry to execute the second descriptor". In claim 24, this limitation is expressed as "the doorbell handler being further coupled...responsive to the second work request having been written to the second doorbell address, to pass a work queue element corresponding to the second work request to the execution circuitry to execute the second work queue element". In claim 25, this limitation is expressed as "the doorbell handler being further coupled...responsive to the second descriptor having been written to the second doorbell address, to instruct the DMA engine to execute the second operation".

In the response filed December 14, 2005, Applicant described the second method as "writing descriptors directly to the doorbell". What Applicant meant by the adverb "directly" was as opposed to writing the descriptors to host memory and then notifying the adaptor, by ringing a doorbell, that the descriptors have been so written. In the office action mailed February 23, 2006, the Examiner interpreted Applicant's argument as follows:

> Applicant is arguing that Gronke does not disclose "a second way to ring a doorbell by writing descriptions directly to the doorbell". This/These limitation(s) are not found in the claims.

Applicant submits that this limitation is found in the claims, as detailed above.

In view of the above remarks it is respectfully submitted that independent claims 1-29 are in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

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Date: July 16, 2006